



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,884	08/14/2001	Daniel A. Lawlyes	DP-304830	8146

7590 12/13/2001

DELPHI TECHNOLOGIES, INC.
Legal Staff
P.O. Box 5052
Mail Code: 480-414-420
Troy, MI 48007-5052

EXAMINER

LINDINGER, MICHAEL L

ART UNIT PAPER NUMBER

2841

DATE MAILED: 12/13/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/928,884

Applicant(s)

LAWLYES ET AL.

Examiner

Michael L. Lindinger

Art Unit

2841

-- The MAILING DATE of this communication appears on the reverse with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 August 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: 40 (FIG. 3). A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

It is believed the Applicant meant to designate element as the passivation material and not as element 38, which was already defined as the thermal adhesive (page 4, paragraphs 1 and 2).

Specification

1. The abstract of the disclosure is objected to because the element numbers designating those elements described in the Specification and Drawings are not necessary. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lawlyes U.S. Patent No. 6,309,224 in view of Denzene U.S. Patent No. 6,219,258 B1. Regarding Claims 1, 6, 8, 13, 15, and 17, Lawlyes teaches a circuit assembly 10 comprising a main assembly board 18, a main assembly housing 20, and a plurality of connectors 20 enabling the assembly to communicate with an outside source. Lawlyes does not teach a pre-assembled circuit assembly having a partitioned circuit element mounted within a partitioned circuit housing, nor does he teach main assembly ports located on the main assembly housing to receive the partitioned circuit assembly. Denzene teaches a pre-assembled circuit assembly 20 having a partitioned circuit element 72 mounted within a partitioned circuit housing 30 and a plurality of connectors 100 (Col. 4, lines 31+; Col. 5, lines 1+; Col. 8, lines 23+; FIG. 2-3, 5-6). It would be obvious to a person skilled in the art to include a removable pre-assembled partition circuit assembly to the main assembly board and housing apparatus in order to quickly perform various tests quickly by inserting and removing the pre-assembled partition circuit assembly based on the specific situation, as well as configuring the housing mold

Art Unit: 2841

to include a main assembly port in order to improve the receiving and securing of the partitioned circuit board. By providing a pre-assembled partition circuit assembly to the main assembly board and housing apparatus, the ability to test circuits or electronic devices quickly and efficiently increases and by altering the fabrication of the mold, instead of just connectors from the partitioned circuit assembly being the only thing securing it to the main assembly board, the main assembly port would offer a tighter fit in respect to tolerances and decrease the possibility of detachment.

Regarding Claims 2, 5, 9, 12, and 16, Denzene pre-assembled partition circuit assembly comprising a plurality of connectors. Denzene does not teach a pre-assembled partition circuit assembly further including a heat sink attached using thermally conductive material. Electronic devices or components generate heat, which creates interference within the electronic assembly and decreasing the accuracy of the signals and results. It would be obvious to a person skilled in the art to recognize that it is common practice to provide a heat sink, heat dissipation device, or cold plate in conjunction with a circuit assembly in order to minimize the dissipation of heat and the subsequent interference problems that accompany the excess heat produced. By provided a heat sink, the applicant is merely attempting to remedy a common problem within the electronic industry, and thus not providing an improvement on an existing product, therefore the inclusion of the heat sink does not constitute patentability.

Art Unit: 2841

Regarding Claims 3 and 10, Denzene teaches a partitioned circuit assembly further including a passivation material 90 positioned within said partitioned circuit housing (Col. 2, lines 27+; Col. 6, lines 46+; Col. 7, lines 1+).

Regarding Claims 4 and 11, Denzene teaches a partitioned circuit assembly further including a seal element 110 such that said partitioned circuit assembly becomes sealed to said main assembly housing after said partitioned circuit assembly is inserted into said main assembly board (Col. 8, lines 23+).

Regarding Claims 7 and 14, Lawlyes teaches a circuit assembly comprising at least one communication port 16 therein (Col. 3, lines 22+; FIG. 1-3).

Prior Art

1. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Rostoker U.S. Patent No. 5,311,060 discloses a semiconductor device comprising a heat sink, a semiconductor chip, and a passivation layer.
- Pressler U.S. Patent No. 5,550,713 discloses an partitioned EMI shielding assembly for a printed circuit board comprising a printed circuit board, a gasket, and a sealing gasket and fastener.
- Achiriloaie U.S. Patent No. 6,094,350 discloses a partitioned module comprising a printed circuit board, a gasket, and a heat sink.
- Weber U.S. Patent No. 6,317,332 discloses an electronic module comprising a housing piece, multiple external connectors, and a circuit board.

Conclusion


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael L. Lindinger whose telephone number is (703) 305-0618. The examiner can normally be reached on Monday-Thursday (7:30-6).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (703) 308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3431 for regular communications and (703) 305-3431 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Michael L. Lindinger
Patent Examiner
Art Unit 2841

MLL
December 5, 2001


Jayprakash N. Gandhi
Primary Examiner
Technology Center 2800